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ABSTRACT

The two-day, Inservice Nutrition Education Training Program was designed to provide teachers with curriculum methodology and materials in nutrition education for grades kindergarten through six. This report examines the results of the program through a posttest questionnaire designed to assess teacher reactions to the curriculum materials, teacher attitudes about the effect of the program, and the extent to which implementation took place. Although only 22 percent of the participants responded to the posttest questionnaire, the majority of respondents noted positive behavioral changes in the food habits of students. The data also suggested that the program helped to improve teachers' attitudes toward teaching nutrition and to increase parent involvement in nutrition education. However, results also showed only a small percentage of teachers reporting that school wide nutrition activity took place as a result of the program. (JCD)

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# FINAL EVALUATION REPORT

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NUTRITION EDUCATION
TRAINING PROGRAM
1980-1981

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UD022005

NEW YORK CITY PUBLIC SCHOOLS
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Evaluation Abstract

Nutrition Education Training Program

| | |
|---|---|
| Funding Period: | January 27, 1981 - June 30, 1981 |
| Funding Source: | New York State Education Department |
| Participant Characteristics: | Teachers, supervisors, and school food personnel from 13 community school districts. |
| Number of Sites: | Three. |
| Site Characteristics: | Floating Hospital, Manhattan; Metropolitan Hospital, Manhattan; and P.S.108, Queens. |
| Major Program Components: | Two days of in-service training designed to introduce participants to the SED nutrition curriculum.<br>Consultants provided assistance to the districts in implementing the curriculum.<br>A structured curriculum guide was produced and distributed to the districts. |
| Evaluation Objective: | To assess the extent to which teachers have implemented the nutrition curriculum. |
| Evaluation Instruments: | Pretest and posttest teacher questionnaires. |
| Summary of Results: | The program influenced an increase in the amount of time teachers spent teaching nutrition.<br>The majority of teachers responding to the questionnaires noticed behavioral changes in the food habits of their students. Curriculum materials were instrumental in decreasing the amount of preparation time teachers needed to teach nutrition education. |

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## I. PROGRAM DESCRIPTION

The Nutrition Education Training Program was designed to familiarize teachers with the state-wide nutrition curriculum for grades kindergarten through six, along with additional curriculum materials developed by Cornell University Cooperative Extension under contract with the State Education Department.

The program consisted of two days of in-service training (9 a.m.-3 p.m.) during the months of January, February, and March, 1981, conducted by two consultants from Cornell University Cooperative Extension. Fifty schools drawn from 13 school districts participated in the training. A total of 140 teachers, 26 supervisors, and 40 school food personnel attended the sessions. The program funded one day of substitute coverage and the districts funded the second day. The goal of the training was to provide teachers with educational approaches and methodology in nutrition education so that they could begin to make attitudinal and behavioral changes in the food habits of their students. Furthermore, it was expected that each school would conduct one school-wide nutrition project. After the teacher training sessions, four district-wide parent workshops were conducted to acquaint parents with the curriculum and to offer suggestions for helping their children develop good nutrition habits.

During the months of May and June, one consultant, assisted by a core of graduate students from Teachers College, began planning follow-up activities for parents, teachers, and food workers designed to enhance their knowledge of nutrition and better enable them to utilize the curriculum. This usually took the form of demonstration lessons. In addition, the consultant met with the nutrition coordinator of each district to distribute a structured curriculum guide which included pupil behavioral objectives. Thirteen days were budgeted for these activities.

## II. PROGRAM EVALUATION

### Evaluation Objective

The evaluation objective was to assess the extent to which teachers implemented the state-wide nutrition curriculum and to assess their reactions to all curriculum materials introduced during the training.

### Evaluation Instrument

Pre and posttest questionnaires were developed by the program's consultants with the assistance of the Office of Educational Evaluation. The pretest questionnaire was designed to assess teachers' expectations and attitudes, related to the teaching of nutrition, before the training. This information was used to help the consultants plan the training to effectively meet the needs of the teachers. The posttest questionnaire was designed to assess teachers reactions to the curriculum materials, the extent to which teachers felt they had changed as a result of the program, and the extent to which teachers implemented the program.

The questionnaires were mailed to the participating teachers accompanied by a cover letter explaining the purpose of the questionnaire. A stamped self-addressed envelope was included to help insure a high response rate.

### Data Analysis

Detailed tabulations of the results of the posttest questionnaire appear in the Appendix, along with cross-tabulations of the responses of 20 teachers who answered both the pre and posttest questionnaires. The following section contains a discussion of the results of the posttest questionnaire.

### Narrative Report of Evaluation Results

The questionnaire was mailed to all participating teachers (N=140); 114 pretest questionnaires and 31 posttest questionnaires were returned to the Office of Educational Evaluation. Twenty of the pre and posttest questionnaires were matched to give indications of program impact. The following information was gleaned from the returned questionnaires:

1. Before training, only about 23 percent of the respondents viewed nutrition education as a very important part of their job; after training, 58 percent of the respondents viewed nutrition education as a very important part of their job. Thus, there was a significant improvement in attitudes towards teaching nutrition.

2. Seventy-seven percent of the respondents stated that they knew a lot about nutrition before the training but were more confident as a nutrition educator after training.

3. Sixty-five percent of the respondents reported that the curriculum and resource materials enabled them to teach nutrition with a minimum of additional preparation time.

4. A majority of the respondents (74 percent) reported that they had begun to see behavioral changes in the food habits of their students as a result of the training program.

5. Sixty-eight percent of the respondents stated that they had made changes in their own personal food behavior as a result of the training program.

6. Before training, 45 percent of the respondents devoted no class time to nutrition education and 32 percent devoted less than one hour per week to nutrition education. After the training, 65 percent of the respondents devoted between one and three hours per week to nutrition education.

7. Seventy-four percent of the teachers stated that they had met with other teachers in their school to share nutrition curriculum and resource materials.

8. The two resource materials used most frequently by teachers for planning and implementation of their nutrition education program were High Feather Teacher Guide (35 percent) and the State Education Nutrition Curriculum Manual (29 percent).

9. Nineteen percent of the teachers reported that a school-wide nutrition education activity had been conducted.

10. The problem encounted most frequently by teachers in implementing the nutrition curriculum was limited time to devote to the subject. Some teachers felt that the materials were received too late in the year. Others felt consumed with the demands of preparing for city-wide reading and math tests, graduation rehearsals, etc..

11. Forty-two percent of the respondents reported that they had been able to involve the parents of their students in the nutrition program.

## III. CONCLUSIONS

The questionnaire data indicate that the program was successful in meeting its major goals for the training program. The results suggest that the Nutrition Education Training Program and the distribution of curriculum materials had an impact on the amount of time teachers devoted to nutrition education. These materials enabled teachers to teach nutrition with a minimum of additional preparation time. Furthermore, a majority of respondents noted behavioral changes in the food habits of their students. Teachers reported that children began eating healthier snacks and showed awareness of nutritious foods and of the high sugar content in certain foods. It was expected that each school would conduct one school-wide nutrition activity. However, only a small percentage of teachers reported that a school-wide nutrition activity actually took place.

Another conclusion suggested by the data is that the program, to some extent, helped to improve teachers' attitudes towards the importance of teaching nutrition. In addition, teachers were able to get parents involved in attending nutrition committee meetings, setting good nutritional examples, and providing healthful snacks.

It should be noted that these conclusions are based upon a small sample of program participants. Only 22 percent of the teacher participants (N=31) completed and returned the posttest questionnaire, while 81 percent (N=114) of the participants completed the pretest questionnaire. One possible explanation for this result is that because the pretest questionnaire was used to help plan the training, teachers may have been motivated to return it, perceiving that they would have direct input in planning the training. The posttest questionnaire was distributed in June, when teachers were preoccupied with many end-of-term administrative tasks. This factor may have accounted for the low response rate, coupled with the possibility that teachers may not have perceived any direct benefit to themselves in completing the questionnaire. It is likely that the more enthusiastic teachers were the ones motivated to return the questionnaire. The conclusions presented above should be interpreted with these qualifications in mind.

## IV. RECOMMENDATIONS

It is recommended that the Nutrition Education Training Program be continued with the following suggestions for improvement:

1. The training would be more effective if conducted at the beginning of the school year. This way, teachers would have a full year to develop a nutrition program and/or integrate nutrition with other subject areas.

2. In order to increase the occurrence of school-wide nutrition activities, more follow-up activities should be provided to the schools during the course of the year. This could take the form of district or school-wide workshops designed for supervisors and teachers to stimulate the schools' commitment to nutrition education.

# APPENDIX

RESULTS OF POSTTEST QUESTIONNAIRES FOR

THE NUTRITION EDUCATION TRAINING PROGRAM, 1980-81

DISTRICT:_____ SCHOOL:_____ GRADE/CLASS:_____

NAME:_____

I. Complete the statements by circling the appropriate words:

1. Before the training program, I viewed nutrition education as a (circle one: very, moderately, not very) important part of my job as classroom teacher. Now, I (still) consider it (circle one: very, moderately, not very) important.

| Responses; | N |
|---|---|
| Very, very | 7 |
| Moderately, very | 11 |
| Not very, very | 2 |
| Moderately, moderately | 6 |
| Not very, moderately | 4 |
| Not very, not very | 1 |
| Total= | 31 |

55% of the teachers improved their attitude toward the importance of nutrition education.

No participant felt nutrition education was less important after the program.

2. District or school-wide nutrition specialists (circle one: are, are not) necessary for the implementation of effective nutrition education programs in the classroom.

| Responses: | N |
|---|---|
| Are | 24 |
| Are not | 7 |
| Total = | 31 |

II. Check off the one statement that most closely reflects how you feel and and fill in the appropriate blanks.

1. a. 3 I have always been confident about teaching nutrition to to my class.

   b. 24 I knew a lot about nutrition before the training program, but I am more confident now as a nutrition educator.

c. 5 I still don't know enough about the subject to teach nutrition the way I would really like to.

| Multiple Responses: | N |
|---|---|
| a,b | 1 |
| b,c | 1 |

No response =1

Total responses =30

2. a. 23 As a result of my efforts in nutrition education, behavioral changes have begun to occur in my students. One example I have observed is:_____

| Examples: | N |
|---|---|
| Students aware of high sugar content in food | 4 |
| Children eating more nutritious food | 13 |
| Elimination of sugar | 2 |
| Awareness of nutritious foods | 3 |
| Willingness to try new foods | 1 |

b. 7 Despite my efforts in nutrition education, I see no real change in the food habits of my students. This is probably because:_____

| Reasons: | N |
|---|---|
| Lack of reinforcement in the home | 5 |
| Students continue to eat junk food | 1 |
| Other | 1 |

c. 0 I simply cannot devote enough time to nutrition education in my classroom to realistically expect to see behavioral changes.

3. a. 20 The curriculum and resource materials have enabled me to teach nutrition with a minimum of additional preparation time.

   b. 6 I have been spending considerable time preparing lessons and activities for my class.

   c. 5 I cannot really do justice to the curriculum and resource materials due to the preparation time required to adapt them to the unique needs of my class.

III. Please complete the statements below that apply to you by circling the appropriate phrase or filling in the blanks. Enter "NA" for those statements that do not apply to you.

1. I have made some changes in my own personal food behavior as a result of the training program. One example is:_____

| Responses: | N |
|---|---|
| Checking food labels for salt and sugar content | 7 |
| Stop drinking soda | 3 |
| Eliminate junk food | 2 |
| Fewer desserts | 2 |
| Cutting down on sugar | 2 |
| Other | 5 |

2. My own food habits (circle one: could, could not) serve as a model for my students.

| Responses: | N |
|---|---|
| Could | 21 |
| Could not | 8 |
| No response | 2 |

3. I have "infused" nutrition topics into other curriculum areas:

| Curriculum Area | Number of Responses |
|---|---|
| Social Studies | 14 |
| Science | 19 |
| Health | 18 |
| Physical Education | 12 |
| Other | 13 |

N/A = 2

| Special Projects: | N |
|---|---|
| Class play on good nutrition week | 1 |
| Making fruit salads for snacks | 1 |
| Prepared book on foods | 1 |
| Junk food hall of shame | 1 |

4. Before the training program, I devoted _____hours per week to nutrition education.

| Responses | N |
|---|---|
| 0 hours | 14 |
| Less than one hour | 10 |
| One to three hours | 4 |
| One unit | 1 |
| No response | 2 |

5. Since completion of the training program, I am devoting _____ hours per week to nutrition education.

| Responses: | N |
|---|---|
| 0 hours | 1 |
| Less than one hour | 4 |
| One to three hours | 20 |
| 4-6 hours | 1 |
| Other | 2 |
| No response | 3 |

6. The two nutrition topics that I have given most emphasis to are:

| Responses: | N |
|---|---|
| Salt, sugar, fat content in food | 13 |
| Healthy snacks | 6 |
| Junk Food | 6 |
| Balanced diet | 10 |
| Other | 9 |
| N/A | 1 |

7. I have made use of the following resources in planning and/or implementing my nutrition education program (check one or more).

a. 5 State Education Nutrition Education Curriculum
9 State Education Nutrition Curriculum Manual for teachers
7 High Feather Videotape or Film Series
11 High Feather Teacher Guide
11 Other materials (please specify): Doofus Stories - 3
National Dairy Council -4
Nutrition kit - 4

b. If you have made use of Nutrition Comes Alive, please specify the activities you used:

Tape, puppets, cards - 1
Where foods come from - 1

8. a. I have been unable to implement a nutrition education program in my classroom. The reason is: _____

| Responses | N |
|---|---|
| Not enough time | 1 |
| Left blank | 19 |
| Not applicable | 9 |
| Other | 2 |

b. Please describe any problems you have encountered in implementing the nutrition curriculum.

| Problems | N |
|---|---|
| Time Limit | 7 |
| Need more resource | 1 |
| No problems encountered | 3 |
| No response | 10 |
| Not applicable | 7 |
| Other | 3 |

9. I was able to involve the parents of my students in the nutrition education program by: _____

| Responses | N |
|---|---|
| Inviting parents to nutrition committee meetings | 6 |
| Encouraged parents to set good nutritional example to children | 5 |
| Parents provide healthful snacks | 2 |
| Not possible | 1 |
| Not applicable | 5 |
| Other | 3 |
| No response | 7 |
| Tried- was not successful | 2 |

10. a. I (circle one: have, have not) met with other teachers in my school to share the nutrition curriculum and resource materials.

| Responses | N |
|---|---|
| Have | 23 |
| Have not | 8 |

b. The number of teachers, I am aware of, who are using the nutrition materials in my school is: _____

| Responses | N |
|---|---|
| None | 1 |
| One to three | 14 |
| Four to six | 5 |
| No response | 11 |

11. A school-wide nutrition education activity (circle one: has been planned, has not been planned, has been conducted).

| Responses | N |
|---|---|
| Has not been planned | 21 |
| Has been conducted | 6 |
| Has been planned | 2 |
| No response | 2 |

12. Since the completion of the training program I (have, have not) used the Food Service personnel as a resource for nutrition education.

| Responses | N |
|---|---|
| Have not | 22 |
| Have | 3 |
| No response | 6 |

| Please Explain: | N |
|---|---|
| Lack of cooperation | 3 |
| Have enough information | 1 |
| Difficulty obtaining resources | 1 |
| Sampled and evaluated new dishes | 1 |
| Acquired list of food items available | 1 |
| Children plan their own menus | 1 |
| Other | 1 |

13. What changes have occurred in your School Food/Nutrition Committee since the training program?

| Responses | N |
|---|---|
| No committee exists | 9 |
| No changes | 5 |
| School menus are issued to classes for discussion & teaching | 1 |
| Committee expressed concern for changing menus | 1 |
| Other | 6 |
| No Response | 9 |

14. I (circle one: would, would not) be interested in additional training next year 1981-1982 to prepare me to conduct nutrition education training for other teachers.

| N |
|---|
| 21 |
| 6 |
| 2 |
| 2 |

CROSS-TABULATIONS, NUTRITION EDUCATION TRAINING PROGRAM*

Table 1. Changes in attitude towards teaching nutrition

| Pre-training attitude | Post-training attitude | |
|---|---|---|
| | Teaching nutrition is a very important part of my job. | Teaching nutrition is a moderately important part of my job. |
| Nutrition is a very important part of my job as classroom teacher. | 5 (25%) | 1 (5%) |
| Nutrition is a moderately important part of my job as classroom teacher, but it is not near the top of my priorities. | 5 (25%) | 6 (30%) |
| Ideally, specialists should teach nutrition. | 2 (10%) | 1 (5%) |

Forty-five percent of the teachers improved their attitude towards teaching nutrition, 55 percent remained the same, and only one teacher's attitude (5 percent) decreased in favorability.

* Based on the responses of 20 teachers who returned both the pretest questionnaire and the posttest questionnaire. Because of the small numbers, all cross-tabulation results should be interpreted very cautiously.

Table 2. Attitude towards nutrition specialists

| Pre-training attitude towards teaching nutrition | Post-training: District - or school-wide nutrition specialists (are, are not) necessary for the implementation of nutrition education programs. | |
|---|---|---|
| | Are | Are not |
| Nutrition is a very important part of my job as classroom teacher. | 4 (20%) | 2 (10%) |
| Nutrition is a moderately important part of my job as classroom teacher, but it is not near the top of my priorities. | 8 (40%) | 3 (15%) |
| Ideally, specialists should teach nutrition. | 3 (15%) | 0 |

Pre-training attitudes did not affect post-training attitudes towards nutrition specialists.

Seventy-five percent of the respondents felt nutrition specialists were necessary.

Table 3. Effect of pre-training attitudes on student behavioral change*

| Pre-training belief about impact of nutrition programs | Post-training behavioral changes in student food habits | |
|---|---|---|
| | Behavioral changes have begun to occur | No real changes in food habits of students |
| Good nutrition programs can have an impact on food habits of students. | 8 (40%) | 4 (20%) |
| Students can learn about nutrition, but there is not enough class time to improve their habits. | 4 (20%) | 1 (5%) |
| It is unrealistic to expect a classroom program to have an impact. | 2 (10%) | |

Seventy percent of the teachers noticed behavioral changes; pre-training expectations did not affect the occurrence of changes.

* One teacher (5 percent) did not answer both questions.

Table 4. Change in knowledge about nutrition education.*

| Pre-training knowledge | Post-training knowledge | |
|---|---|---|
| | I was always confident about teaching nutrition. | Since training, I am more confident as a nutrition educator. |
| I know enough to teach my class about nutrition. | 0 | 4 (20%) |
| I could use a quick refresher course to feel more confident about teaching nutrition. | 1 (5%) | 7 (35%) |
| I don't know enough to teach nutrition the way I'd really like to. | 2 (10%) | 5 (25%) |

Eighty percent of the teachers increased confidence in their knowledge, including those teachers who felt they knew enough before the program.

* One teacher (5 percent) did not answer both questions.

Table 5. Change in attitude towards teacher's food habits* as a model for students.

| Pre-training | Post-training: Teacher's food habits could serve as a model for students. | Post-training: Teacher's food habits could not serve as a model for students. |
|---|---|---|
| Teacher's food habits could serve as a model for students. | 8 (40%) | 1 (5%) |
| Teacher's food habits could not serve as a model for students. | 3 (15%) | 5 (25%) |

Those who felt positively about teachers as models remained positive.

Of those who felt negative, almost half changed to positive after training.

* Three teachers (15 percent) did not answer the question both times.